2025/12

SET A

BACHELOR OF OPTOMETRY
THIRD SEMESTER
INSTRUMENTATION AND INVESTIGATION-II
BOP-305

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. What is the primary purpose of an auto refractometer?
   a. To measure intraocular pressure
   b. To assess color vision
   c. To determine the refractive error of the eye
   d. To examine the retina

2. Which of the following components does an auto refractometer typically use to analyze the eye's refractive status?
   a. Ultrasound
   b. Infrared light
   c. X-rays
   d. UV light

3. The measurement given by an auto refractometer is:
   a. Subjective refraction
   b. Objective refraction
   c. Tonometry
   d. Visual acuity

4. Auto refractometers are especially useful in which of the following situations?
   a. Prescribing glasses for children under 5
   b. Diagnosing cataracts
   c. Initial estimation of refractive error
   d. Treating dry eyes

5. What does a pachometer primarily measure?
   a. Axial length of the eye
   b. Thickness of the retina
   c. Corneal thickness
   d. Tear film volume

6. What is the most common clinical use of corneal pachymetry?
   a. Diagnosing diabetic retinopathy
   b. Measuring intraocular pressure accurately
   c. Assessing visual fields
   d. Detecting cataracts

7. Which of the following methods is commonly used in ultrasound pachymetry?
   a. Applanation
   b. Optical coherence
   c. Contact probe with high-frequency sound waves
   d. Fluorescein dye injection

8. A normal central corneal thickness (CCT) is typically around:
   a. 300–350 microns
   b. 420–460 microns
   c. 520–550 microns
   d. 600–700 microns

9. What is the main purpose of Fundus Fluorescein Angiography (FFA)?
   a. To measure intraocular pressure
   b. To visualize retinal and choroidal blood vessels
   c. To check corneal curvature
   d. To evaluate lens opacity

10. Which dye is used in FFA?
   a. Rose Bengal
   b. Fluorescein sodium
   c. Lissamine green
   d. Trypan blue

11. What is A-scan primarily used to measure?
   a. Corneal curvature
   b. Axial length of the eye
   c. Retinal nerve fiber layer
   d. Tear film thickness

12. A-scan is most commonly used in which clinical scenario?
   a. Glaucoma diagnosis
   b. Cataract surgery IOL power calculation
   c. Diabetic retinopathy screening
   d. Retinoscopy

13. What is the primary purpose of perimetry in optometry?
   a. Measure refractive error
   b. Evaluate intraocular pressure
   c. Assess the visual field
   d. Examine retinal thickness

14. Which of the following conditions is commonly diagnosed using perimetry?
   a. Cataract
   b. Glaucoma
   c. Hyperopia
   d. Astigmatism

15. A scotoma is best defined as:
   a. The area of highest sensitivity
   b. A blurry vision zone
   c. An area of partial or complete visual field loss
   d. The blind spot at the optic nerve

16. In perimetry, what does a fixation loss indicate?
   a. The patient is not pressing the response button
   b. The patient is not keeping their gaze on the fixation target
   c. The stimulus was too bright
   d. The pupil is too dilated

17. Which of the following is a common side effect of YAG laser capsulotomy?
   a. Retinal detachment
   b. Iris atrophy
   c. IOP reduction
   d. Cataract formation

18. Which laser is used in photodynamic therapy for wet AMD?
   a. Argon laser
   b. Diode laser
   c. Nd: YAG laser
   d. Cold laser

19. What does LASER stand for?
   a. Light amplification by simulated emission of rays
   b. Light and sound emission by radiation
   c. Light amplification by stimulated emission of radiation
   d. Light analysis by stimulated energy radiation

20. Which laser is commonly used in retinal photocoagulation?

a. Argon laser
b. YAG laser
c. Excimer laser
d. CO2 laser

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Descriptive

Time : 2 hr. 30 mins. Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. What is the principle of an auto-refractometer? Explain the types and optical properties of it. 10
2. Explain about Pachometer and write its clinical types and clinical importance. 10
3. Write a note on the potential acuity meter and describe its importance in clinical practice. 10
4. Describe about F.F.A and write its principle and its importance in clinical practice. 10
5. Write the difference between A-scan and B-scan and state the principle of it. 10
6. What is A-scan and B-scan? Write the clinical features and findings of it. 10
7. What is the clinical purpose of perimetry in diagnostic? State the principle of perimetry. 10
8. What is LASER used for in clinical practice? Write the types and clinical application of ophthalmic LASER. 10

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